

## Case report

# Primary torsion of the greater omentum

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Primary torsion of the greater omentum is a rare cause of acute abdominal pain. The diagnosis is rarely made before operation and most cases are diagnosed as acute appendicitis. I report a child with this condition and review eight other cases.

## CASE HISTORY

A 10-year-old boy was admitted with pain in the right iliac fossa for two days, which was made worse by movement and coughing. He was not nauseated and he did not vomit. He had not eaten for two days. Pulse rate was 70 per min and temperature 37.4°C. There was marked tenderness with rebound in the right iliac fossa. On rectal examination he was very tender on the right side. White cell count was 8,300 per ml. A diagnosis of acute appendicitis was made. At operation a small piece of greater omentum which had undergone torsion was found lying directly beneath the incision. The twisted omentum measured 5 × 4 × 4 cm and formed part of the right lower quadrant of the greater omentum (Fig). The appendix was not inflamed. The terminal ileum appeared normal and a Meckel's diverticulum was not found. The piece of twisted omentum was ligated and excised and the appendix was removed. Histology revealed infarction of the greater omentum due to primary torsion and a normal appendix.



Fig. Infarcted right lower greater omentum.

Details of eight other cases of primary torsion of the greater omentum were collected from a search of the medical records at the Royal Victoria Hospital and the Belfast City Hospital over the past 20 years. Their ages ranged from three to 34 years (mean 17.5 years) and four were under 12 years old. All were males and one seven-year-old boy had Down's syndrome. All but one case was diagnosed as acute appendicitis. The average duration of symptoms before

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admission to hospital was two days. The most common presenting symptom was abdominal pain which was located in the right iliac fossa in five cases, on the right side of the abdomen in two and in the right hypochondrium in one. Other symptoms included nausea, vomiting, constipation and anorexia. Tenderness was located in the right iliac fossa in seven cases and was often accompanied by guarding and rebound. An abdominal mass was not palpable in any case. Only one had a temperature greater than 38°C and in only three was the white cell count elevated. In six cases a gridiron incision was used. There was free fluid in the peritoneal cavity in five which was bloodstained in three. All were found to have primary torsion of the greater omentum. The largest piece of omentum removed weighed 200g and the smallest weighed 5g. All recovered rapidly with minimal complications.

## DISCUSSION

The first case of primary torsion of the greater omentum was reported by Eitel in 1899.<sup>1</sup> Primary or idiopathic torsion occurs in the absence of associated pathology.<sup>2,3</sup> Secondary torsion which is more common may be associated with hernias, tumours, cysts or inflammation in the abdomen. Predisposing factors include obesity, a bifid omentum, tongue-like formations of omentum and omental malformations.<sup>4</sup> Payr suggested that redundancy of the veins in relation to the arterial supply caused kinking, with venous engorgement, the distended and tortuous veins rotating around the rigid arterial axis of the omentum, resulting in torsion.<sup>5</sup> It has been suggested that the onset is precipitated by trauma, over-eating, coughing, over-exertion, straining or an inflammatory focus.<sup>6</sup>

This group of cases includes five children, which is unusual, since primary torsion of the omentum is rare in childhood because the omentum is poorly developed and any twist will return immediately to normal. Primary torsion of the omentum affects all age groups but is most commonly seen in middle-aged men.<sup>7</sup> In two of the present cases, mesenteric adenitis was noted but this was not thought to be related to the torsion. In two there was a serosal reaction on the appendix which may have been secondary to the torsion. In another case the appendix exhibited a low-grade submucosal, subacute inflammation at its tip but it seems most unlikely that this could have caused the torsion. An uninflamed Meckel's diverticulum was found in two cases.

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